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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,284	10/23/2003	Windsor Wee Sun Hsu	ARC920030078US1	4140

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EXAMINER	
PARDO, THUY N	

ART UNIT	PAPER NUMBER
2165	

DATE MAILED: 06/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/693,284	HSU ET AL.	
	Examiner	Art Unit	
	Thuy Pardo	2165	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 October 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-42* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-42* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *10/23/2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's Application filed on November 23, 2006 has been reviewed.

2. Claims 1-42 are presented for examination.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krapp et al. (Hereinafter "Krapp") US Patent Application No. 2002/0169934 in view of Kedem US Patent No. 6,535,994.

As to claim 1, Krapp teaches the invention substantially as claimed, comprising:

sliding a window [list of data block identifier, 0128] over the data chunks [obtaining data block; ab; 901 of fig. 9; 0125-0126];

dividing data into predominantly fixed-size chunks [the transmitted digital information may be divided into predetermined blocks by a fixed divisor [0063]; and

testing if a data within the window has been previously seen [determine whether the first data block identifier already exists in a list of data block identifiers, 502-505 of fig. 5a; ab; 0128; 702-708 of fig. 7; 901-909 of fig. 9].

However, Krapp does not explicitly teach tracking a residue data that has not yet been emitted as a chunk although it has the same functionality of eliminating data redundancies. Kedem teaches tracking a residue data that has not yet been emitted [col. 18, lines 65 to col. 19, lines 47]. Moreover, Kedem also teaches dividing data into predominantly fixed-size chunks so that duplicate data chunks are identified [fixed size blocks, ab; col. 10, lines 32-36; col. 16, lines 3545; col. 20, lines 54-55].

Therefore, it would have been obvious to one of ordinary skill in the Data Processing art at the time of the invention to add the feature of Kedem to the system of Krapp as an essential means to reduce the storage of duplicate data and increase the reliability in data storage and network transmission.

As to claim 2, Krapp and Kedem teach the invention substantially as claimed. Kedem further teaches if the data within the window has been previously seen, emitting as one or more unique chunks the residue data that has been slid over, and further emitting as a duplicate chunk the data in the window [col. 18, lines 65 to col. 19, lines 47].

As to claim 3, Krapp and Kedem teach the invention substantially as claimed. Krapp further teaches testing if the data within the window has been previously seen

comprises testing whether the data within the window is likely to have been seen before [0050-0051; 0063-0067].

As to claim 4, Krapp and Kedem teach the invention substantially as claimed. Kedem further teaches sliding the window forward by a predetermined number of bytes [col. 3, lines 56 to col. 4, lines 5].

As to claim 5, Krapp and Kedem teach the invention substantially as claimed. Kedem further teaches sliding the window by a number of bytes that is determined by an offset from a beginning of the chunk, the offset being associated with a marker in the data within the window [100-109 of fig. 10].

As to claim 6, Krapp and Kedem teach the invention substantially as claimed. Kedem further teaches that the marker comprises a predetermined pattern that appears substantially consistently throughout the data [90-99 of fig. 9; 108 of fig. 10].

As to claim 7, Krapp and Kedem teach the invention substantially as claimed. Kedem further teaches emitting as one or more chunks, residue data that has been slid over by the window but not yet emitted, if the size of the residue data exceeds the size of the block [col. 18, lines 65 to col. 19, lines 47].

As to claim 8, Krapp and Kedem teach the invention substantially as claimed. Krapp further teaches computing a plurality of functions relative to the data in the chunk, and further remembering resulting computed values [0050-0051; 0063-0067].

As to claim 9, Krapp and Kedem teach the invention substantially as claimed. Krapp further teaches testing whether the data in the window is likely to have been seen before by computing one or more of the plurality of functions relative to the data; and further checking to determine if the computed value is one of the resulting computed values that have been remembered [0050-0051; 0063-0067].

As to claim 10, Krapp and Kedem teach the invention substantially as claimed. Krapp further teaches performing a first least accurate and least expensive test and then performing a second more accurate and more expensive test only if the first test is positive [determination level1, level 2, and level 3, 902-906 of fig. 9].

As to claim 11, Krapp and Kedem teach the invention substantially as claimed. Krapp further teaches looking for predetermined patterns in the chunk, and remembering the occurrences of the predetermined patterns and corresponding offsets from the beginning of the chunk [0050-0051; 0063-0067].

As to claim 12, Krapp and Kedem teach the invention substantially as claimed. Krapp further teaches testing whether the data in the window is likely to have been seen before further comprises looking for the patterns in the data [0050-0051; 0066].

As to claim 13, Krapp and Kedem teach the invention substantially as claimed. Krapp further teaches checking to determine if the occurrences of any the predetermined patterns in the data in the window have been remembered [0050-0051; 0066].

As to claim 14, Krapp and Kedem teach the invention substantially as claimed. Krapp further teaches looking up the corresponding offset that has been remembered, when the patterns have been remembered [0050-0051; 0066].

As to claim 15, Krapp and Kedem teach the invention substantially as claimed. Krapp further teaches using the remembered offsets to line up the window with a previously seen chunk [0050-0051; 0066].

As to claim 16, Krapp and Kedem teach the invention substantially as claimed. Krapp further teaches looking for specific patterns in the data performed by computing a mathematical function over subsequences of the data and finding computed values with certain values [0151; 0063].

As to claim 17, Krapp and Kedem teach the invention substantially as claimed. Krapp further teaches that remembering the occurrences of the specific patterns is implemented by computing a supplemental mathematical function of data near the specific patterns, and by remembering corresponding computed values [0063].

As to claim 18, Krapp and Kedem teach the invention substantially as claimed. Krapp further teaches determining whether the data within the window has been previously seen within a preceding period of time [503 of fig. 5a].

As to claim 19, Krapp and Kedem teach the invention substantially as claimed. Krapp further teaches determining whether the data within the window has been previously seen within a predetermined amount of preceding data [501-504 of fig. 5a].

As to claim 20, Krapp and Kedem teach the invention substantially as claimed. Krapp further teaches determining whether the data within the window has probably been previously seen within any of a preceding period of time or within an amount of preceding data [503 of fig. 5a].

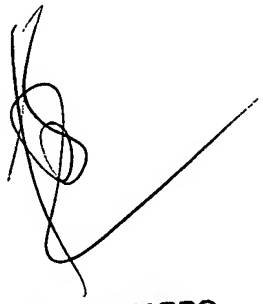
As to claims 21-42, all limitations of these claims have been addressed in the analysis above, and these claims are rejected on that basis.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thuy Pardo whose telephone number is 571-272-4082. The examiner can normally be reached on Mon-Thur.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Gaffin can be reached on 571-272-4146. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

June 07, 2006



THUY N. PARDO
PRIMARY EXAMINER